MSCS207 MOBILE COMPUTING (3-0-0)

Module – I: 08 Hours

Introduction, Mobile Communications, Mobile Computing Paradigm. Promises/Novel Applications and impediments and Architecture; GSM Services. System Architecture. Protocols. Localization, Calling, Handover, Security, New Data Services, GPRS

Module – II: 10 Hours

Wireless Medium Access Control: Motivation for a specialized MAC [Hidden and exposed terminals. Near and far terminals], SOMA, FDMA TOMA, COMA, Wireless LAN/[IEEE 802.11], Mobile Network Layer IP and Mobile IP Network Layers, Packet Delivery and Handover Management, Location Management, Registration. Tunnelling and Encapsulation, Route Optimization, DHCR.

Module – III: 08 Hours

Mobile Transport Layer: Conventional TCP/IP Protocols, Indirect TCP, Snooping TCP, Mobile TCP, Other Transport Layer Protocols for Mobile Networks.

Module – IV: 10 Hours

Data Dissemination and Synchronization: Communications Asymmetry. Classification of Data Delivery Mechanisms. Data Dissemination, Broadcast Models. Selective Tuning and Indexing Methods.

Mobile Ad hoc Networks: Introduction, Applications a Challenges of a MANET Routing, Classification of Routing Algorithms. Algorithms such as DSR. AODV. DSDV

Text Books:

1. Mobile Communications, Jochen Schiller, 2nd Edition Reprint, Pearson Education, 2016.
2. Mobile Computing, Brijesh K Gupta, 2nd Edition, Khanna Publishers, 2020

Reference Books:

1. Wireless Communications: Principles and Practices, Theodore S. Rappaport, 2nd Edition, Pearson Education, 2022.
2. Mobile Computing , Raj Kamal , 3rd Edition, Oxford University Press, 2018